A Method to Prioritize Pollution Prevention Options
Planning Guide #2

The best pollution prevention options fall into two categories: those that eliminate chemical use, wastes, emissions, or discharges at the source through changes in operating practices, technologies, input, or products; and those that recover and recycle spent materials.

This guide was prepared for Arizona facilities to assist in successful implementation of Arizona Pollution Prevention Planning and reporting requirements.

After completing your pollution prevention plan list of feasible opportunities and identifying your options, you can use the following table to evaluate and priortize your options. Each option will be evaluated in four areas; 1) pollution prevention hierarchy, 2) implementation potential, 3) option type, and 4) option cost.

1. The environmental management hierarchy (EMH) consists of the following, which are, in fact in the preferred order: 1) source reduction, 2) recycling, 3) energy recovery, 4) treatment, and 5) disposal. (Note: The Tables I and II in the ADEQ Pollution Prevention Plan Guidance Manual (Module II pp 21-24) can help you identify an option's place within the pollution prevention hierarchy.

SR	= Source Reduction	= 5 pts.
RI	= Recycling (in-process)	= 4 pts.
RE	= Recycling (end-of-pipe)	= 3 pts.
ER	= Energy Recovery	= 3 pts.
TI	= Treatment (in-process)	= 2 pts.
TE	= Treatment (end-of pipe)	= 1 pt.
DP	= Disposal	= 0 pts.

2. The implementation potential (IP) is the chance that you believe this option has of being implemented in your shop.

High	= 4 pts.	Low	= 2 pts.
Medium	= 3 pts.	None	= 0 pts.

For options that you evaluate as "none" or having no potential of being implemented into your facility, no further evaluation is necessary.

3. "Option Type" refers to groups or classes believed to cover the majority of the options. These four classes or types of options are not unique, and you may believe that a further breakdown is necessary. You may want to establish your own classes to accommodate your individual facility practices.

P\P	= Policy or Procedural Change	= 4 pts.
PM	= Process Modification	= 3 pts.

EM	= Equipment Modification	= 2 pts.
NE	= New Equipment	= 1 pts.

4. The "Option Cost" refers to the range that you believe it will cost to implement this pollution prevention option. Actual costs may include costs for raw materials, compliance, remediation/cleanup, maintenance, operating, labor, environmental fees/permits, equipment, treatment and disposal.

None or No cost	= 4 pts.	Medium cost	= 2 pts.
Low Cost	= 3 pts.	High cost	= 1 pt.

Example: Evaluate the following two waste reduction techniques to determine the Pollution Prevention Option that would be the most effective:

1) First-in First-out Material usage policy

2) Install Ion-Exchange in-process to recycle rinse water.

Table 1: Pollution Prevention Option Evaluation

Waste Reduction Technique	EMH*	IP* H (4) M (3) L (2) N (0)	Option Type P\P (4) PM (3) EM (2) NE (1)	Option Cost N (4) L (3) M (2) H (1)	Option Total
1. First-in First-out Material Policy	SR (5)	H (4)	P/P (4)	N (4)	(17)
2. Install Ion Exchange	RI (4)	L (2)	NE (1)	H (1)	(8)

After totaling the scores you can see that implementing a first-in first-out policy should be implemented before installing an ion-exchange unit. The next step is further evaluation of the economic feasibility and associated payback period.

After evaluating each option in the four areas, add up their scores and complete the table. After completion of the table for the options identified for use in your facility, a prioritization or order in which to further explore options should result.

This is a preliminary analysis of the options to quickly identify those options which are desirable for implementing into your facility. A more detailed study into the costs of each option should be conducted to see exactly how the option will financially affect your facility and to determine the payback period for each option.

* Note: The above classes and point values for each area are only examples; they are not hard and fast rules. If you believe you have more than four types of options, you can develop your own types of options and their respective point values. This document was prepared to stimulate your thinking about prioritizing Pollution Prevention options within your facility.

Information in this guide was obtained from the California Department of Environmental Quality "Hazardous Waste Reduction Checklist and Assessment Manual".